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86/R/WW/4 Factors Affecting Take-all - W. Wheat

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86/R/WW/4

WINTER WHEAT

FACTORS AFFECTING TAKE-ALL

Object: To study the effects of a range of factors on the incidence of take-all and on the yield of w. wheat - Pastures.

Sponsors: D. Hornby, G.L. Bateman, R.J. Gutteridge.

Design: A half replicate of 2 x 2 x 2 x 2 x 2 x 2.

Whole plot dimensions: 3.0 x 10.0.

Treatments: Combinations of:-

1. SOWDATE Dates of sowing:
24 SEPT 24 September, 1985
18 OCT 18 October
2. SOILFUNG Application of fungicide to the seedbed:
NONE None
NUARIMOL Nuarimol at 1.0 kg
3. SEEDRESS Seed dressings:
ORGANO M Organo mercury
TRIADIME Triadimenol plus fuberidazole
4. AUTUMN N N application to the seedbed:
0 None
60 60 kg N as 'Nitro-Chalk' on 24 Sept, 1985
5. N TIME Spring application of 200 kg N/ha:
SINGLE Single application on 21 Apr, 1986
DIVIDED 40 kg early, on 12 Mar, 160 kg later, on 21 Apr
6. N FORM Forms of spring nitrogen:
SUL AMM Sulphate of ammonia
AMM NITR Ammonium nitrate as 'Nitro-Chalk'

Basal applications: Manures: (0:18:36) at 690 kg. Weedkillers: Clopyralid at 0.07 kg, bromoxynil octanoate at 0.34 kg, mecoprop at 2.5 kg and isoproturon at 2.1 kg in 200 l applied with the prochloraz and carbendazim. Fungicides: Prochloraz at 0.40 kg and carbendazim at 0.15 kg. Propiconazole at 0.12 kg in 200 l.

Seed: Avalon, sown at 180 kg.

Cultivations, etc.: Heavy spring-tine cultivated: 11 Sept, 1985 and 19 Sept. PK applied: 20 Sept. SOWDATE 24 SEPT plots rotary harrowed, seed sown: 24 Sept. SOWDATE 18 OCT plots rotary harrowed, seed sown: 18 Oct. Weedkillers with prochloraz and carbendazim applied: 30 Apr, 1986. Propiconazole applied: 27 June. Combine harvested: 21 Aug. Previous crops: W. wheat 1984 and 1985.

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NOTE: Plant samples were taken in mid-March, end of April and the beginning of July for assessment of take-all. Assessments for eyespot and sharp eyespot were made in July. Components of yield were measured.

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

SOILFUNG	NONE	NUARIMOL	MEAN
SOWDATE			
24 SEPT	7.87	8.42	8.15
18 OCT	8.79	8.78	8.78
MEAN	8.33	8.60	8.47
SEEDRESS	ORGANO M	TRIADIME	MEAN
SOWDATE			
24 SEPT	8.12	8.17	8.15
18 OCT	8.90	8.66	8.78
MEAN	8.51	8.42	8.47
SEEDRESS	ORGANO M	TRIADIME	MEAN
SOILFUNG			
NONE	8.36	8.30	8.33
NUARIMOL	8.66	8.54	8.60
MEAN	8.51	8.42	8.47
AUTUMN N	0	60	MEAN
SOWDATE			
24 SEPT	8.13	8.16	8.15
18 OCT	8.65	8.91	8.78
MEAN	8.39	8.54	8.47
AUTUMN N	0	60	MEAN
SOILFUNG			
NONE	8.22	8.44	8.33
NUARIMOL	8.57	8.64	8.60
MEAN	8.39	8.54	8.47
AUTUMN N	0	60	MEAN
SEEDRESS			
ORGANO M	8.34	8.69	8.51
TRIADIME	8.45	8.39	8.42
MEAN	8.39	8.54	8.47
N TIME	SINGLE	DIVIDED	MEAN
SOWDATE			
24 SEPT	7.85	8.45	8.15
18 OCT	8.64	8.93	8.78
MEAN	8.24	8.69	8.47

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GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

N TIME	SINGLE	DIVIDED	MEAN
SOILFUNG			
NONE	7.96	8.71	8.33
NUARIMOL	8.53	8.67	8.60
MEAN	8.24	8.69	8.47
N TIME	SINGLE	DIVIDED	MEAN
SEEDRESS			
ORGANO M	8.34	8.68	8.51
TRIADIME	8.14	8.70	8.42
MEAN	8.24	8.69	8.47
N TIME	SINGLE	DIVIDED	MEAN
AUTUMN N			
0	8.27	8.52	8.39
60	8.22	8.86	8.54
MEAN	8.24	8.69	8.47
N FORM	SUL AMM	AMM NITR	MEAN
SOWDATE			
24 SEPT	8.28	8.02	8.15
18 OCT	8.64	8.93	8.78
MEAN	8.46	8.47	8.47
N FORM	SUL AMM	AMM NITR	MEAN
SOILFUNG			
NONE	8.35	8.31	8.33
NUARIMOL	8.56	8.64	8.60
MEAN	8.46	8.47	8.47
N FORM	SUL AMM	AMM NITR	MEAN
SEEDRESS			
ORGANO M	8.64	8.39	8.51
TRIADIME	8.28	8.56	8.42
MEAN	8.46	8.47	8.47
N FORM	SUL AMM	AMM NITR	MEAN
AUTUMN N			
0	8.60	8.19	8.39
60	8.32	8.75	8.54
MEAN	8.46	8.47	8.47
N FORM	SUL AMM	AMM NITR	MEAN
N TIME			
SINGLE	8.20	8.28	8.24
DIVIDED	8.72	8.66	8.69
MEAN	8.46	8.47	8.47

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***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

MARGINS OF TWO FACTOR TABLES	0.275
TWO FACTOR TABLES	0.389

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
WP	10	0.777	9.2

GRAIN MEAN DM% 80.2

PLOT AREA HARVESTED 0.00272